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ABSTRACT

This paper examines the power of particular affect and rejection socioquestions to produce characteristic patterns across all the sociometric choices of 576 fifth-graders in 18 classrooms. Of particular concern are the degrees of centrality exhibited in response to socioquestions which pertain to academic competence and failure and the overall impact of patterning on the students' self-concepts. An index of centrality and diffusion of affect among children was developed to explore children's responses to 16 sociometric questions of both positive and negative nature. During the compiling of the semi-processed data, the strong influence of certain sociocriteria on the diffusion or centrality of choice was revealed. This study was part of a larger research project in which teacher verbal behavior, as defined by Flanders instrumentation, was correlated with the social patterning among pupils. (Author)

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EFFECT OF SOCIOCRITERIA ON SOCIAL STRUCTURE PATTERNS

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Effect of Sociocriteria on Social Structure Patterns

Application of social-psychological concepts to classroom interaction theory has been evolving since Moreno (1951) initiated the field of sociometry in the first half of this century. Thelen (1951) was most explicit in describing the classroom as a social organism with unique attributes which are responded to in unitary ways. During the 1960s the National Institute of Mental Health review of the research, "Socialization and Social Structure in the Classroom," (Glidewell and others, 1966) pertained to the significance of the teacher in such areas as increasing the acceptance of children, reducing interpersonal conflict and anxiety, stumulating autonomous work, independent thought, and moral responsibility. At the same time a related body of literature was developing around how teachers influence the quality of the learning environment. This period had been characterized by the development of extensive instrumentation in data gathering of classroom interaction (Simon and Boyer, 1967).

Reflecting the on-going interest in social-psychological concern about teacher influence and classroom social structure, this report has developed peripheral findings growing out of the research of Daily (1970). In this article however the influence of the sociocriteria on the total patterning of children's peer relationships has been examined. Although the design and results of the major research have been

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included here as necessary foundation to the report, the major purpose of this paper has been to focus on the power of various kinds of affect and rejection to influence the total social pattern of the classroom. This data was particularly curious in that it had not been sought, but rather created its own visibility within the semiprocessed data.

The original research was focused on the assumption that human relations are significant factors in personality development and intellectual growth, as well as in providing the dynamics for acquisition of life skills. Thus status and rejection structures are both products and indicators of the general feeling tone of the social group, which, in schools, is called classroom climate. The question of to what extent the teacher does in fact influence the classroom cilmate has by no menas been answered. This project was designed to extend information about the social-psychological base of curriculum process. More specifically it examined the relationships between the verbal styles of teachers and interpersonal structures in their classrooms.

Method

Subjects: The subjects for this study were the Fifth Grade children and their teachers in eighteen self-contained classrooms, which were all self-contained classrooms in the system without student teachers, and with female teachers.

Teacher data: Teachers' verbal behavior was collected and processed through the standard Flanders Interaction Analysis

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procedures (Flanders 1967; Amidon and Flanders 1967) in a series of four observations in different weeks, across different subjects, and with different observers. (Scott Interrater Reliability Coefficients for the observers had been established at .86 and above.) The observations were cast into standard matrix form for each teacher as descriptive of her verbal teaching behavior.

The teachers in the study proved to be Direct with over one-half of their behaviors falling into lecturing, giving directions, and criticizing or justifying categories, thus limiting the scope of the interpretation of the research. The I/D ratio, composed of accepting children's feelings, praising and encouraging, accepting or using children's ideas, and questioning categories, (as Indirect behaviors), divided by the total teacher behaviors, provided a range for these teachers of .1592 for the most direct to .4972 for the least direct teacher.

Peer group structure: Characteristic of the sociogram is the ability to reveal certain patterns of affect valence among groups of people. Though such visibility is created readily, the sociogram has not lent well to use in social structure research. Interpretations of total patterns often have been more intuitive than objective. Design of this research required some objective measure of patterning which would describe the continuum between high concensus of choice patterning and high diffusion of choice patterning.

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Sociograms may be thought of as similar in a sense to maps of prevailing winds or ocean currents from one location to another on the earth, in that the sociogram maps directions and patterns of affect valences from one person to another within a social setting. The index developed for this research established quantification along a continuum of how central and intense or how broadly inclusive and benign these systems were. Two extremes of social structure are contrasted in the following figures diagramming choosers-to-chosen relationships.

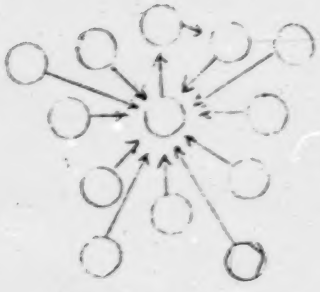

Figure 1.

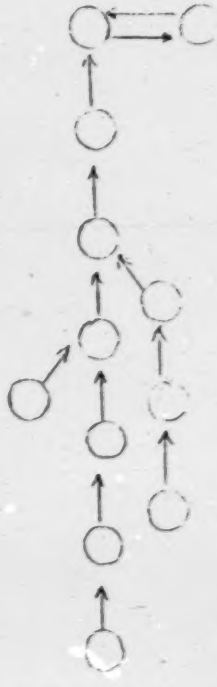

Figure 2.

Development of the C-D Index was based on the staircase phenomena of Jennings (1947) and definitions of centrality and diffuseness as elaborated by Schmuck (1963). Jennings observed that children with good mental health tended to make first choices of peers who were perceived near but just above them on the criteria of social choice. An extension of this idea

implies that the map of such a flow of affect should result in chains of choice similar to Figure 2. In the terminology of Schmuck (1963, p. 31) the formation in Figure 2 is diffuse or "widely focused" with nearly equal distribution of choices and fewer entirely unchosen pupils. Figure 1 on the other hand is centralized in structure since it is "narrowly focused" with high concensus choice pattern and many children unchosen.

Using these ideas as a base for the theoretical construct of social patterning, the C-D Index was developed to describe patterns for this research. Quantifying the concepts above, the "many," "few," and "nearly" were converted to ratio form. Percent of children chosen on a single choice socioquestion indicated how centralized or diffused the choice patterns might be. Jenning's staircase phenomena, perhaps crudely, was translated to the ratio between choice linkages in the longest chain of choice within the configuration and the total first choices possible within the class, (which was equal to the number of children choosing). The product of these two ratios, the C-D Index, was used to describe the conditions of sociopatterning of each classroom on each sociocriteria.

A sixteen question sociometric instrument was designed and field tested for the research. (This instrument has been discussed in greater detail later.) 576 Fifth-Grade children responded to the questions read by the researcher, either as classroom groups or, for absentees, individually. All class room pupils had lists of class names by sex to remind them of class members present or absent, to assure correct names, and to cover the responses for privacy of choice. From the

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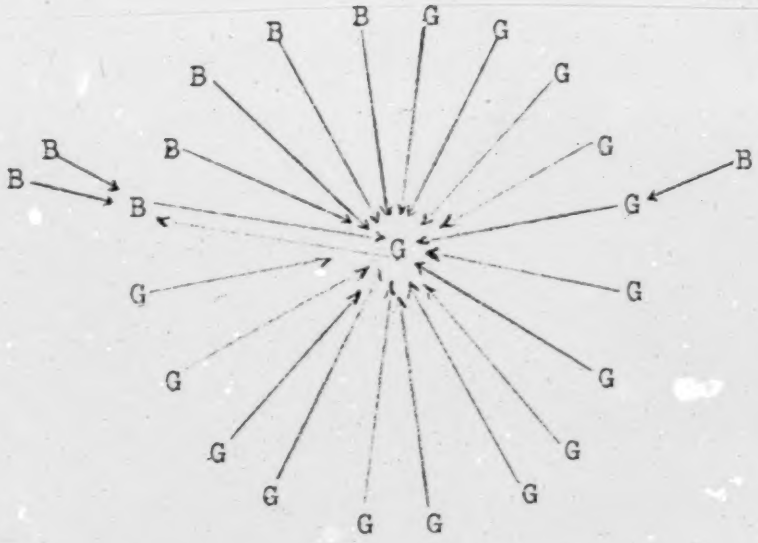

Figure 3. Centralized Structure Pattern, C-D Index = .01 of Socioquestion Four, Classroom Five.

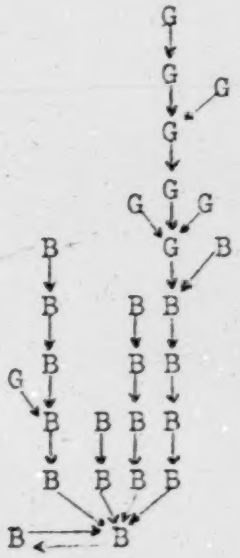

Figure 4. Diffuse Structure Pattern, C-D Index = .27 of Socioquestion Six, Classroom Six.

children's choices in each room, C-D indices were computed. These ranged from a low C-D Index of .01 (highest in centralization), and a high C-D Index of .27 (highest in diffuseness in structure). See Figures 3 and 4.

Statistical processing: Stepwise regression correlations were computed between the teacher data, (the I/D, i/d, and the ten categories of percentages), and the C-D indices of the sociometric information. This was done with the STEPREG/STATKSU computer program of Kent State University.

Results

Summary of major results: Since the subject of this paper is an examination of the influence of the sociocriteria for choice on the patterning of response, the results of the research will be but briefly summarized in the tables which follow. Positive correlations indicate diffusely organized social structures related to teaching behaviors having high percentages in the categories shown, and centralized social structures related to low percentages in the categories shown. See Tables 1 and 2.

Nature of socioquestions designed: The socioquestions had been designed to probe three main areas: affective, rejective, and helping relationships within each classroom. Affective relationships and assignments of status were probed with questions relating to friendship, personality, influence, and academic and other school-based competencies. Rejections were probed with socioquestions on lack of competence in the above areas, as well as peer avoidance, inability to influence, and coercive physical power. Helping was probed in each direction, that is, both for giving help to another child and in being helped by another.

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TABLE 1. Summary of Significant Multiple Correlations between Ten Flanders Interaction Analysis Categories for Eighteen Fifth Grade Teachers and the Centrality-Diffuseness Indices of Social Structure Derived from Their Pupils' Responses to Five Status Socioquestions.

Socioquestions*	Flanders Categories Teacher Behavior	Sign of Coefficient	Multiple R (Significant at .05 or above)
SQ2 Who do you like best in this room?	Accepts, Uses Ideas	+	.51
SQ3 Who in the room is friendly, fun to be with and doesn't tease?	Asks Questions	+	.53
SQ4 Who in the room is smart and good at their subjects?	Lectures Criticizes	- +	.71
	Lectures Criticizes Accepts Feelings	- + +	.79
	Lectures Criticizes Accepts Feelings Accepts, Uses Ideas	- + + -	.86
SQ5 --good at other things you do at school?	Praises, Encourages	+	.65
SQ6 Almost everybody has trouble with school work once in a while. Sometimes you can help them out. Who in the room would you like to help?	Accepts Feelings Accepts, Uses Ideas Lectures	+ + -	.63

*Low C-D Indices denote centralized structures and high Indices denote diffuse social structures.

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TABLE 2. Summary of Significant Multiple Correlations between Ten Flanders Interaction Analysis Categories for Eighteen Fifth Grade Teachers and the Centrality-Diffuseness Indices of Social Structure Derived from Their Pupils' Responses to Six Socioquestions of Negative Status or Rejection.

Socioquestions*	Flanders Categories Teacher Behavior	Sign of Coefficient	Multiple R (Significant at .05 or above)
SQ9 At school we do many different things. Who in the room has the most trouble with their subjects?	Accepts Feelings	+	.62
SQ10--with other things at school?	Accepts Feelings	+	.51
SQ12 Some children can't get others to act right. Who in the room should not be picked to take care of the room?	Accepts Feelings	+	.54
	Accepts Feelings Pupil Responding	+ +	.78
SQ14 Who causes you the most trouble in the room?	Accepts Feelings	+	.50
	Accepts Feelings Accepts, Uses Ideas	+ +	.66
SQ15 Who in the room do you try to stay away from?	Accepts Feelings Accepts, Uses Ideas Gives Directions	+ + +	.67
	Accepts Feelings Accepts, Uses Ideas Gives Directions Criticizes	+ + + +	.78
SQ16 Who might pull your clothes, throw you down, or hurt you?	Criticizes Pupil Initiating	+ -	.61

*Low C-D Indices denote centralized structures and high Indices denote diffuse social structures.

When these bases for choice are examined in relation to social structure patterns, then centrality and diffuseness have unavoidable implications for the mental health of children and the quality of interpersonal life in the classroom. In centrally-structured classrooms, only one or two children enjoy the status of acceptance with high concensus. The implications are much different in diffusely-structured rooms. Here the Jenning's "staircase phenomena of psychological choice" (1959, p. 88) links many children into networks of affect and regard in the subjective hierarchies of individual choice. The effect of rejection in centrally-structured classrooms must also be contrasted with the effect of rejection in diffusely-structured rooms. If education functions to integrate children into acceptable social roles, high concensus peer-rejection patterns must be a major concern in rehabilitating the highly rejected child.

Helping structures too have impact on the efficiency with which children function together for mutual purposes. Helping sociochoices imply both the friendly desire to help and the assumed competence to do so. The implications of centralized structure from helping socioquestions are 1) that little knowledge exists between peers on relative competencies, or 2) that inhibitions are present to deny use of such information if known, 3) that information does exist in highly palpable form on the "dumb one," 4) that the appropriateness of helping this one has somehow been signalled or sanctioned. Again the self image of such a "star" must be examined as he sees himself in the eyes of his peers.

Results from the sociodata: In the sociometric data, four socioquestions produced similar patterns across all classrooms in the study. That is, on a single socioquestion the social structure of every class was singularly similar to all others on that particular socioquestion. No matter what size the class or the verbal style of the teacher, one sociogram looked much the same as the other. In describing these tendencies, it is hoped that further research will explore the extent to which these particular social criteria dominate patterns of structure.

The most highly centralized socioquestion in the data was SQ4, who is smart and good at their subjects?. Among the 234 individual sociograms, the C-D indices had ranged between .01 and .27, and among the averages by socioquestion, the range had been between .04 and .15. For the above question the .04 is an indication of how great the concensus of all classrooms about the nature of academic success. Using the definition suggested by Ahlbrand and Reynolds (1972), "highly visible" children are those receiving over ten choices on a socioquestion. On this socioquestion, girls were highly visible more often than boys; and when the centers-of-stars, girls received over twice as many choices as their male counterparts. Overall, very few pupils were perceived by their peers as actively engaged in the role of student. Children in this study did not "see" academic competence as a shared experience. See Table 3.

Similarly the negative corollary of the above, SQ9 who in the room has the most trouble with their subjects? was the second most highly centralized with an average C-D index of .05.

TABLE 3. Highly Centralized Sociostructures: Twelve Lowest C-D Indices from 234 Sociograms of Fifth Grade Classrooms.

SQ	C-D Index	Links	Choices to Most-Chosen	Class Size
4	.01	4	20	39
4	.01	4	19	25
4	.02	5	23	38
4	.02	5	26	35
4	.02	5	20	27
9	.02	4	22	33
9	.02	3	8	27
4	.03	5	11	33
4	.03	5	16	34
9	.03	4	18	35
9	.03	3	17	32
9	.03	4	18	33

TABLE 4. Highly Diffuse Sociostructures: The C-D Indices over .20 found in 234 Sociograms of Fifth Grade Classrooms.

SQ	C-D Index	Links	Choices to Most-Chosen	Class Size
6	.27	11	5	27
3	.26	11	3	25
3	.26	12	4	26
6	.24	9	5	25
6	.23	8	4	23
3	.21	12	5	34

Though the degree of concensus among children was almost as high as on the previous criteria, boys were highly visible six times as often as girls and also received six times as many of the overselections. The peer reflection of self image for these young males appears to lack congruence with the aims and intent of their educational process.

Diffusely structured sociopatterns were anticipated from the helping socioquestions. In preparing the sociometric instrument it was thought that the most highly-linked data would come from one of the helping SQs, since this ability to help or be helped implies levels of power or competence as well as liking. It was expected that if the "staircase phenomena" were operative, as Jennings suggested would occur in mentally healthy classrooms, then children would tend to choose toward those whom they admired. Further, those chosen would not be so far above the choosers that the chosens would be indifferent to the feelings and needs of the children choosing them.

However, the most highly diffuse social patterning came from personality-based SQ3 who in the room is friendly, fun to be with, and doesn't tease?, with an average C-D index of .15. See Table 4. Here the best exhibit of the linking phenomena was found with the maximum number of social linkages in a chain being twelve. The second most diffusely structured sociograms were produced by SQ6 who would you like to help if they were having trouble with their schoolwork?, with an average C-D index of .13. A comparison of Table 3 with Table 4 reveals the extremes of difference in children's choosing patterns between Socioquestions Three and Six and Socioquestions Four and Nine.

Summary

Of the four sociquestions discussed, social criteria which was highly personal and affective in nature tended to be most diffuse in social patterning; that is, more children mirrored by their peers as acceptable and desirable for these roles. Social criteria related to academic success or failure was most highly centralized with rejections for improper school behavior (not discussed in this paper) closely following in the high centralization pattern. Both of these centralized areas are of primary responsibility and task functions of the teacher. Teacher attention and concern for individuals are far more visible to children collectively than we would like to believe; and with the majority of teachers in this sample, those concerns were focused on the few children at the extremes of academic competence and failure. Pupils were then mirrored in the eyes and attitudes of their peers as secondary reflections of their teachers' concerns. The impact on the self-concepts of those children unchosen and those over-rejected can not be ignored.

The classrooms in the research sample were conservatively "traditional" and self-contained. (The Flanders I/D ratios were were all under .5 for the eighteen teachers.) The nature of the data leads directly into questions about possible differences in social structure if the instructional organization were to be individualized and personalized. Much research is needed in regard to the overall impact of administrative groupings and instructional patterns on children's human relationships.

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